

FINAL REPORT

OF THE

AD HOC DEER HERD COMMITTEE

DECEMBER 2, 2015

AD HOC DEER HERD COMMITTEE REPORT AND RECOMMENDATIONS

INTRODUCTION

This Committee was appointed by City Council to explore issues relating to the deer herd within the City of Manistee, Michigan, to explore issues relating to the effective management thereof, and present a recommendation for a long-term plan. This is the final report and recommendation of that Committee.

FIRST STEP

The first recommendation of the Committee has already been implemented by the Council, the adoption of an Ordinance prohibiting the feeding of deer (and other wild animals) within the City. The purpose and goal of the Ordinance was to create an environment that is less artificially attractive to deer and other wild animals. By eliminating the supplementation of the natural food supply, the herd will be limited to those food sources that are naturally available. Naturally available food sources, all things being equal, should be more readily available in the wild (outside of the City).

DISCUSSION

The problem is that a significant number of deer, attributable, at least in part, to the readily available food supply that the pre-ordinance environment provided, has resulted in a significant and growing herd of deer that have become acclimated to the urban existence and have reached a level that has begun to cause noticeable problems.

As a second step, the Committee initiated a survey to address the deer issue, seeking to obtain public input as to whether there is a perceived problem, the severity of the perceived problem and input regarding potential remedies. A summary of that survey is attached and includes a professional analysis from Laura Simons of the Humane Society. Taking into account the varied responses and the information acquired by this Committee from various sources, the Committee does hereby make the following findings:

- There have always been and will always be deer within the City of Manistee, Michigan.
- Elimination or eradication of deer within the City is neither feasible nor desirable.
- The size of the deer herd within the City has grown significantly in recent years to a level that now is presenting problems for some portion of the population. Reproduction in multiples (more than one fawn per bearing doe) has apparently become common, possibly attributable, at least in part, to the availability of food resources in the pre-ordinance environment.

• The problems presented by the deer population are not uniform throughout the City. The perceived problems seem to be concentrated in two areas, the southwest quadrant (west of Maple Street and south of the Downtown District) and the northwest quadrant (north of the river reaching as far east as US-31).

There is no "quick fix." There is no measure, or series of measures that will solve the problem immediately, herd management is a long-term venture.

The implementation of the feeding ban was a necessary and appropriate first step, but given the present deer population and rate of reproduction, the feeding ban alone will not effectively address the present situation in the foreseeable future because those deer that are here and are comfortable here, continue to reproduce.

Considered but Not Recommended

There exists an avenue of pursuit involving an immuno-contraceptive called PZP (a natural protein that is applied via dart gun) which would render the affected members of the existing herd incapable of reproducing for a period of 1-3 years. This approach is supported by the Humane Society. There are clearly discernable problems with this approach:

- 1. It does nothing to reduce the size of the existing herd. It only slows the rate of reproduction, thereby limiting growth of the herd.
- 2 The duration of the efficacy of this product is 1-3 years.
- 3. The cost would appear to be prohibitively expensive and requires an ongoing annual effort and expenditure.
- 4. A beginning step for Council would be to reach out to Stephanie Boyles Griffin, Innovative Wildlife Senior Director of the American Humane Society for a presentation on the PZP study and an onsite evaluation. She can be reached at 301-258-3147 or sboyles@humanesociety.org.

The Alternative

In 2014, City Council approved a "cull" with up to 50 permits issued by the DNR for the taking of deer within the City limits. It was to be carried out by local law enforcement. Subsequent to approval and prior to implementation this action was rescinded. Concerns over a number of issues were expressed, including:

- 1. The diverting of resources. Why should local law enforcement be spending their time hunting deer rather than catching bad guys?
- 2. Noise issues relating to the discharge of firearms in the City.
- 3. Safety and liability issues.
- 4. And the ever present portion of the population who are opposed to any form of artificial management practices, who believe that nature should be allowed to take its course, without intrusion.

The question will inevitably arise as to how many deer are "residents" and how many are proposed to be removed. The Committee, in addressing that question, can only say that there are enough to constitute a significant problem to a significant portion of the residents. Can a more specific analysis be conducted? More specific information can be provided regarding aerial surveys.

Per the initial quote from Davis Aviation the area of Manistee, Michigan, as indicated on a Google Map, is 4.471 square miles or 2861.44 acres. Davis Aviation can travel roundtrip from its home in Ravenna, Ohio to Manistee and conduct the deer count, do the analysis, and produce a report and maps (similar to the example provided in the Appendices) for \$8,895.00. This amount is based on the 696-mile roundtrip from base, charged at \$2.50/mile and the count of 2,862 acres at \$2.50/acre. A buffer zone on the land areas surrounding the City of about 500 to 1,000 feet is included without additional cost. To lower this cost simply lower the number of acres to be covered by sizing the City into specific quadrants to be surveyed. The quote and sample report includes contact information for Davis Aviation.

The Committee, at its meeting of October 7, 2015, heard a presentation from Tony Aderman of the U.S. Department of Agriculture. The USDA has apparently been involved with a number of different communities: Roscommon, Mt. Pleasant, and most recently Ingham County and facilities (airports) in successfully effecting herd reductions. They provide a team of trained shooters who come in, most frequently for one night and in a preordained, safe area, using only their people, noise suppressed (not silenced, but suppressed) weapons, night vision equipment to eliminate the need for artificial light, and remove as many deer as can be located during the designated period. Filling the entire quota (50) is unrealistic. Roscommon produced 20 in a single night. If a second encounter is necessary, a one to two week intervening period is employed to avoid the deer becoming acclimated to the hunt as they do during deer season.

Of course, this program is not without cost and specifics could not be provided, as a negotiated fee is agreed upon based <u>not</u> upon results (per head) but upon designated manpower and time devoted to the matter. Mr. Aderman did indicate that the Roscommon airport project had a designated budget of \$5,000, only a portion of which was used to achieve what they deemed effective results. Presumably, the negotiation of a specific contractual arrangement would be left to the City Manager or other designated official.

CONCLUSION

Is it necessary? A majority of the Committee believes that it is. As indicated above, there have always been deer and will always be deer, in the City of Manistee. However, the size of the herd that has become acclimated to urban living prior to the institution of the recent feeding ban has grown markedly in recent years and the frequent references to multiple fawns is supportive of the conclusion that this trend is ongoing. Without intervention, existing problems will only grow worse.

The implementation of the feeding ban should help to reduce the artificially attractive environment that has been produced by humans supplementing the natural food supply. That is step one. If nothing further is done, the reduction in available food supply to that which is

naturally occurring, may, eventually reduce the size of the existing herd; but that is a long-term process because the urban deer herd is also not subject to natural predators or the effects of hunting as a management practice. In the meantime, those deer that are here and are comfortable here will continue to reproduce.

The majority of the Committee therefore recommends that a reduction in the size of the existing herd be implemented; to reduce the number of deer already here, comfortable in the urban environment, and reproducing.

The services of the USDA seem an appropriate resource as they conduct the service in a fashion that addresses some (not all) of the concerns expressed over the previous plan. They are professionals. This is what they do. They are trained. They have resources and project-specific equipment available to them, and it eliminates redirection of local resources (having our local law enforcement officers out hunting deer rather than doing what they are trained to do).

According to Mr. Aderman of the USDA, February or March would be an appropriate time to conduct this type of herd management. It can still be accomplished in 2016, but immediate attention is going to be required to provide adequate time for scheduling and preparation.

It is, at this juncture, difficult to predict whether this measure will suffice or if further measures will be required in the future (in a year or two) but the majority of the Committee believes that this immediate measure is a necessary and appropriate step in a long-term management plan.

Ongoing analysis is going to be required to assess the effectiveness of the recommended measures. An ongoing, annual survey is appropriate to evaluate the public perception: are residents seeing fewer deer, experiencing fewer problems, etc. The survey should be revised and fine-tuned to more effectively target the desired issues and provide a more easily interpreted, quantified, and more meaningful body of information. There is always room for improvement.

Further it is recommended that we provide public education via the City's website by having a separate page on deer herd management. The page could provide information to the public including a link to this report and the feeding ban ordinance; in addition to helpful hints regarding living with deer like available repellants, what plants are not attractive to deer, etc. A copy of the Rochester Hills website page is included in the Appendices as an example.

Appropriation of resources is going to be required in order to facilitate this process, but that is beyond the scope and authority of this Committee. The Committee majority recommends that action be taken to reduce the size of the existing herd and that use of the established resources of the USDA presents a reasonable option that should be explored by whomever Council deems appropriate to do that, with such authority as Council deems appropriate to authorize, in terms of funding.

It will require the cooperation and consent of the affected landowners (where the hunts will be conducted). The Committee understands that at least two of the most appropriate sites are owned by the City. A copy of the USDA application form has been included in the Appendices. Further action / implementation will require City Council approval.

COMMITTEE MEMBERS IN FAVOR OF ADOPTING THE REPORT AND RECOMMENDATIONS:

John Brakora	John R Brehon	Dated /2-2-2015
Fom Bruce		Dated
Bob Hornkohl	Bob Hallf	Dated_ 62-2-15
Barry Peterson	Barry K. + Horson	Dated 12-2-15
Roger Zielinski	Jone I Fishings	Dated /2-2-2015
Сомміттее Ме	EMBERS IN DISSENT OF A CULL:	
Josh Penland	The Harden of	Dated 12/2/15

6 | Page

APPENDICES

MINUTES – JULY 23, 2015

MINUTES – AUGUST 5, 2015

MINUTES – AUGUST 19, 2015

MINUTES – SEPTEMBER 2, 2015

MINUTES – OCTOBER 7, 2015

MINUTES – NOVEMBER 4, 2015

MINUTES – DECEMBER 2, 2015

DEER HERD SURVEY WITH COMMENTS BY LAURA SIMON, HUMANE SOCIETY ECOLOGIST ON RESULTS

USDA APPLICATION FORM

DAVIS AVIATION AERIAL SURVEY QUOTE & SAMPLE REPORT

CITY OF ROCHESTER HILLS WEBSITE EDUCATION

CAR/DEER ACCIDENTS AND DEER DISPATCHED FROM 1/1/2009 THRU 10/15/2014

AD HOC DEER HERD COMMITTEE MINUTES OF THURSDAY, JULY 23, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Thursday, July 23, 2015 at 1:15 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: Roger Zielinski, Dave Bachman, John Brakora, Josh Penland, Barry Peterson

ABSENT: Bob Hornkohl, (Susan Brown withdrew)

OTHERS PRESENT: None

PURPOSE: To develop a long-term strategy for deer herd management.

Introduction. Members of the Committee introduced themselves and provided some background as to why they wanted to serve on this committee. Roger Zielinski provided copies of some internet research he has done on this subject.

The committee took action to select Josh Penland as Chair. Decided to meet every two weeks on Wednesday, beginning at 3:30 p.m. The next meeting will be Wednesday, August 5, 2015 at 3:30 p.m. in the Second Floor Conference Room, City Hall. Dave Bachman will post the meetings and reserve the room. Executive Secretary Cindy Lokovich will provide minute-taking services to the committee.

Barry Peterson arrived at 1:32 p.m.

Discussion. Discussed the goal of this committee and what members would like to accomplish. Brakora and Peterson presented a position of pro cull; Zielinski and Penland presented a position of a need for a sustainable program, perhaps with an initial cull, ban on feeding, sterilization or other options yet to be discovered. Areas discussed included:

- Deer seem most concentrated in the Eighth Street area.
- Deer are resilient and culling sometimes results in a rebound effect.
- Some members felt it was a public safety issue due to ticks.
- Deer are almost domesticated and not afraid of people.
- Construction of the new high school and loss of deer habitat impacted the movement into the city.
- Culling is needed.
- First step is to ban feeding.
- Detrimental to property value due to yard damage.
- Cost of a cull program is about \$1,000 if city officers are used.
- Safety concerns with using City officers and discharging fire arms in the City; hire a company with insurance and experience.

- Sterilization would cost approximately \$200 per deer and some felt the DNR would not allow sterilization.
- Not many car/deer accidents in the City.
- What makes this a City problem? Bachman advised that the City is the only entity that can get a permit to cull deer in the City.
- Public education needed.
- State has managed the herd to encourage more revenue from hunting.
- A professional study of the herd and available options was suggested.

CONSENSUS:

- Bachman will invite a DNR biologist to attend a future meeting.
- Zielinski will research contractors and invite one to a future meeting.
- Penland will look into someone that could help with public education.
- All members will gather more information on alternatives to work toward a five-year plan that is cost effective or that could cover expenses.
- Bachman will work with the City Attorney on an ordinance to ban feeding.

Next meeting is Wednesday, August 5, 2015 at 3:30 p.m. in the Second Floor Conference Room, City Hall.

Adjourned at the Call of the Chair at 2:30 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, AUGUST 5, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, August 5, 2015 at 3:30 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Barry Peterson, Dave Bachman

ABSENT: Roger Zielinski, Bob Hornkohl

PURPOSE: To develop a long-term strategy for deer herd management.

Ordinance to Ban Feeding. City Attorney George Saylor drafted language to amend Chapter 606 of the Codified Ordinances of Manistee to include a Section 606.08 Feeding of Wild Mammals. Following review of the draft, the committee requested changes to specifically address feeding deer and a clarification on crops; which will be forwarded to the City Attorney. Once the revised draft is completed, Dave Bachman will request a meeting of the Council Ordinance Committee. If the Ordinance Committee concurs with the draft language, it will be forwarded to full Council for consideration.

MOTION by John Brakora, second by Barry Peterson to endorse the draft ordinance as amended to the Council Ordinance Committee. Voice vote – motion carried.

Discussion. Copies of the committee minutes from July 23, 2015 were distributed. Members shared information gleaned from research regarding sterilization, crash information, diseases and ticks, other communities that have solved issue without killing deer, deer repellents, electric fencing, non-attractive plants, and costs. Committee asked for crash history in the City – 60 automobile crashes reported from 2009 to 2014.

CONSENSUS:

- Dave Bachman / Tom Bruce will invite a DNR biologist to attend a future meeting.
- Penland will contact the Director of the Michigan Humane Society for a future meeting.
- Zielinski will research contractors and invite one to a future meeting.
- All members will gather more information on alternatives to work toward a five-year plan that is cost effective or that could cover expenses.

Committee discussed meeting dates and times and moved future meetings to 3:00 p.m. The next meeting is scheduled for Wednesday, August 19, 2015 in the Second Floor Conference Room. If no speakers can be arranged for that date and time, it will be cancelled.

MOTION by Barry Peterson, second by John Brakora to adjourn at 4:30 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, AUGUST 19, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, August 19, 2015 at 3:00 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Barry Peterson, Bob Hornkohl, Tom Bruce

ABSENT: Roger Zielinski

<u>PURPOSE</u>: To develop a long-term strategy for deer herd management; providing recommendations to City Council.

Discussion on DMU 051. Josh Penland provided the committee with information regarding the DMU 051 Deer Management Unit for Manistee County.

Discussion on Aerial Survey. Josh Penland provided a shaded map of the City showing areas for a possible aerial survey of deer in the City. Mr. Penland will move forward and secure a cost quote.

Discussion on Public Survey. Josh Penland provided the committee a draft copy of a citizen survey that he is proposing. Following discussion, MOTION was made by Josh Penland, second by Bob Hornkohl to approve the survey form as drafted by the Chair and move forward with publication. Voice vote – Motion carried.

The Committee was reminded that they cannot incur any expenses on behalf of the City without prior approval of the City Council.

Next Meeting. Contact information for the DNR Biologist was provided to the Chair who will make contact to schedule a presentation at a future meeting.

The next meeting is scheduled for Wednesday, September 2, 2015 at 3:00 p.m. in the Second Floor Conference Room.

Meeting adjourned at the Call of the Chair at 4:10 p.m.

Josh Penland, Chair Acting Recording Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, SEPTEMBER 2, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, September 2, 2015 at 3:00 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Barry Peterson, Roger Zielinski

ABSENT: Bob Hornkohl, Tom Bruce

OTHERS: Jill Fritz, Michigan Senior State Director, Humane Society

Ari Cornman, LRBOI – Conservation Department Biologist Bob Sanders, LRBOI – Conservation Department Biologist

Kristine Drake, Traverse City

<u>PURPOSE</u>: To develop a long-term strategy for deer herd management; providing recommendations to City Council.

Ordinance to Ban Feeding. At the meeting of July 23, 2015 this committee requested an ordinance be drafted to ban the feeding of deer. City Attorney George Saylor drafted language to amend Chapter 606 of the Codified Ordinances of Manistee to include a Section 606.08 Feeding of Wild Mammals which was endorsed by the committee and forwarded to the Council Ordinance Committee. The Council Ordinance Committee met on September 1, 2015 and made changes to the language to also ban feeding wild turkeys and specifically exclude pets, chickens and ducks. It is anticipated that this ordinance will be before Council at their meeting of September 15 for the first reading; with a second reading and adoption at the October 6, 2015 meeting.

Humane Society Presentation: The Chair introduced Jill Fritz who he contacted for a presentation by the Humane Society on deer herd management. (Recently consulted with the City of Ann Arbor who is moving forward with a cull.) Their advice: start by doing research, complete a survey to see if there really is a problem, set up a good data monitoring and assessment program, create a living with deer section on the City's website to educate the public; before setting a cull.

They have staff conducting a study on birth control for Ann Arbor and they will be moving forward on a PCP (contraception) program. Playing a numbers game is a losing situation; no evidence that killing deer works. Also discussed mitigating property damage through selected plantings, repellants or barriers. Public safety concerns will most likely be brought up in survey results; lot of varying factors on public safety. Suggested collecting and assessing numbers to designate hotspots to tailor mitigation and public education. Rochester Hills has had a very successful education program. Lyme disease in not reduced by a cull. Ticks are carried by many other mammals and birds and are not reduced by a cull. Deer are highly prolific; the more food, the more they reproduce. Culling can create a bounce-back. Culls divert attention from effective solutions. More information on their website, they advise against lethal control.

Numerous questions and comments by committee members and those in attendance. Discussion points included but were not limited to:

- Humane Society perspective on hunting.
- No magic number of deer for a certain area.
- Manistee has unique areas in town that provide deer habitat.
- Start education, continue to collect data and decide next spring on where to go from here.
- Has been an item of discussion by City Council since 2003.
- Socially / politically where does the City want to be?
- LRBOI has experience with studies of deer population and could provide technical assistance and help to the City through a partnership arrangement. They are neither for nor against a hunt; just needs to be effective. Tribe is opposed to any program that results in waste. Education is very important no matter what course is taken. Number one thing is an ordinance against feeding and you will see a marked drop if feeding is banned and they would love to see this state-wide. You will never reduce complaints to zero.
- Josh Penland believes the City needs an aerial survey with an estimated cost of \$8,895. Jill Fritz will check to see if funding is available through the Humane Society. (No committee consensus on the need for an aerial survey.)
- LRBOI recommended trying a combination of all strategies but it would have to be an ongoing commitment of the City to control the herd.
- Kristine Drake noted that the public needs to be educated on what a cull would look like.

Jill Fritz will send the committee supporting documentation on why a cull does not work and the cost for a PCP program.

Josh Penland has put together a binder of information and would like to schedule a work session with City Council. General consensus that the committee is not at this point and no formal request was made. The committee would like some direction from the City Manager on what should be prepared prior to requesting a joint work session with the City Council.

Discussed length of deer survey. MOTION by John Brakora, second by Roger Zielinski to shorten the survey deadline from January 1 to October 1. Discussion followed, voice vote-Motion carried. Josh Penland will work with City staff to have this corrected. Discussed who would be responsible for compiling surveys, with no formal appointment. It was suggested that results should be prepared for the next committee meeting.

At the suggestion of the Chair, the committee discussed moving to only one meeting per month. General consensus to meet the first Wednesday of each month at 3 p.m. Other meetings could be called as necessary. Roger Zielinski and Josh Penland will work on arranging presentations for the next meeting by the USDA and the MDNR. The next meeting is scheduled for Wednesday, October 7, 2015 at 3:00 p.m. in the Second Floor Conference Room.

Call of the Chair to adjourn at 4:45 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, OCTOBER 7, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, October 7, 2015 and called to order at 3:00 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Barry Peterson, Roger Zielinski, Tom Bruce

ABSENT: Bob Hornkohl

OTHERS: Tony Aderman, USDA District Supervisor

<u>PURPOSE</u>: To develop a long-term strategy for deer herd management; providing recommendations to City Council.

APPROVAL OF THE AGENDA

Discussion on meeting notices, agenda preparation and other committee functions. Agendas will be prepared and emailed approximately one week prior to meeting by the Recording Secretary. Please submit agenda items prior to that so a meeting packet can be prepared and posted.

MOTION by Roger Zielinski, second by Josh Penland, to approve the agenda as presented. Voice vote - Motion carried.

PRESENTATIONS

Roger Zielinski introduced Mr. Tony Aderman, District Supervisor, USDA Wildlife Services. His department participates in human/wildlife management. Currently working in Ingham County to remove deer and test for Chronic Wasting Disease (CWD). Between June and September they have removed 516 deer in a two-mile radius; two of those deer tested positive for CWD. Charge for services varies depending on the degree of work requested and process used. Some areas simply approve a set budget amount and they work within that. The State might not allow some of their methods in certain areas; however, shooting is their preferred method.

Discussion on Manistee's perception and experience regarding deer herd management. Brakora noted an increase in population in recent years. Mr. Aderman said a good first step is to adopt a feeding ban to stop attracting the deer. He felt that a cull in Manistee would be experimental in nature and recommended utilizing the harvest to feed the hungry. Tom Bruce discussed the cull process previously scheduled for last January. Area food banks could not accept and anyone accepting a deer would be responsible for processing costs. There was more than enough interest at that time to have all the harvested deer distributed. Mr. Aderman recommended having deer

tested for CWD in the interest of research. The USDA said they would cooperate with local department as much as possible to keep the costs down. Extensive discussion on methods used, security, protests or other incidents, and safety. If hired, the USDA would be the responsible party should an incident happen; however the USDA has a perfect safety record. City would need to acquire permission from private property owners and find locations where bait piles can be placed. Permission would be required from the City and the MDNR. Mr. Aderman noted that this is a sensitive issue with many citizens. Culling is probably the cheapest method, wouldn't recommend contraception, and the USDA does not live trap. Discussed timeframe - USDA felt that winter is the best time as they try to avoid orphaning fawns from early May to mid-July. Mr. Aderman provided his contact information:

Tony Aderman, District Supervisor USDA – APHIS Wildlife Services Tony.Aderman@aphis.usda.gov 989-705-8467 x 224

UNFINISHED BUSINESS

- Ordinance to Ban Feeding At their meeting of October 6, 2015 City Council took action to adopt an ordinance amending Chapter 606 of the Codified Ordinances of Manistee to include a Section 606.08 Feeding of Wild Mammals. The ordinance will take effect ten days after enactment.
- **Deer Herd Survey** At the previous meeting the survey deadline was shortened to October 1. Josh Penland compiled the survey results and shared them with the Committee. Additional survey forms were received past the deadline date.

MOTION by Roger Zielinski, second by Barry Peterson to accept and incorporate surveys received after the deadline. Voice vote - Motion carried.

There were 113 responses included in the first draft compiled by Josh Penland. Penland verbally shared an email from the Humane Society of Michigan Ecologist with comments on survey results. Penland felt the reason for the survey was to get feedback from residents; the second step is for public education. John Brakora would prefer to call the process a managed hunt rather than a cull. Penland will incorporate additional surveys and make format clarifications as requested by the committee. Revised document will be shared with the committee for further review.

- **Humane Society Follow-Up** Penland said there are no grant funds available in Michigan through the Humane Society for an aerial survey or PCP contraception program. If further information is needed City Council would have to request a presentation.
- **Public Education** This should be part of the Committee's recommendations when a report is drafted for City Council.

• Work Session with City Council - Committee previously requested some direction from the City Manager on what should be prepared prior to requesting a joint work session with City Council. Per City Manager Bifoss this "Committee should have firm recommendations and clearly state, in writing, before the work session, the reasons and costs for the recommended course of action. The Committee should then be prepared to answer questions from the Council and public on those recommendations." To be scheduled with City Council for December or January pending completion of a report document.

John Brakora will begin crafting a Findings of Fact Report for future committee review. The final survey document and committee minutes will be made a part of this report.

NEW BUSINESS	
None.	
PUBLIC COMMENT	
None.	
COMMENTS BY COMMITTEE MEMBERS	
None.	
ADJOURN	

The next meeting is scheduled for Wednesday, November 4, 2015 at 3:00 p.m. in the Second Floor Conference Room.

MOTION to adjourn by John Brakora, second by Barry Peterson at 4:57 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, NOVEMBER 4, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, November 4, 2015 and called to order at 3:10 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Roger Zielinski, Bob Hornkohl, Tom Bruce

ABSENT: Barry Peterson

<u>**PURPOSE**</u>: To develop a long-term strategy for deer herd management; providing recommendations to City Council.

APPROVAL OF THE AGENDA

MOTION by Roger Zielinski, second by John Brakora, to approve the agenda as presented. Voice vote - Motion carried.

PRESENTATIONS

None

UNFINISHED BUSINESS

- **Deer Herd Survey** General consensus to add one more late submission, bringing the total to 120 responses. Following a review of the most recent draft there was no committee consensus on what information the survey results provided. Several members felt the survey was biased toward the Humane Society's perspective and did not present a clear answer on the question of whether to cull deer or not. Extensive discussion on the survey format and responses. Mr. Penland will add the final response, include the number of responses at the beginning of the document, and forward to the secretary for inclusion in the final report.
- **Draft Report to City Council** John Brakora crafted the first draft Findings of Fact Report for committee review. The final document will include the survey, committee minutes, USDA application form, and a signature page.

Extensive discussion on the need for public education, the need for a deer management program, the need for citizens to learn how to help themselves, and what should be included in the report to Council. Bob Hornkohl made a motion to submit the draft prepared by John Brakora to City Council at the December work session. There was no second and no vote was taken.

Josh Penland does not support a cull; this should be second in importance to public education. Mr. Penland asked that his position be stated in the report to Council and that information on the need for public education is also included. Mr. Penland and all committee members were encouraged to attend the Council work session when the report is discussed.

Noted that there is no budget for a deer management program in this fiscal year budget. If Council moves forward with committee recommendations it will be up to Council to decide where the money will come from. Discussion continued on the draft report.

Tom Bruce arrived at 4:15 p.m. At the request of Mr. Hornkohl he will gather the number of deer/car accidents over the past five years for inclusion in the final report to Council. Sergeant Bruce also reported that the Manistee Police Department has received no feeding complaints as of this date.

Following continued discussion it was decided that John Brakora would forward his current draft to the secretary who will put it into a format that works for all committee members. Committee members will have until November 13, 2015 to provide additional comments and/or language changes to the secretary. A revised draft showing language amendments will be distributed to the committee for further review. It is anticipated that the final report will be available at the December 2, 2015 committee meeting for signatures and forwarding to Council for the next available work session.

NEW BUSINESS

None.

PUBLIC COMMENT

None.

COMMENTS BY COMMITTEE MEMBERS

None.

ADJOURN

The next meeting is scheduled for Wednesday, December 2, 2015 at 3:00 p.m. in the Second Floor Conference Room, City Hall.

MOTION to adjourn by Bob Hornkohl, second by John Brakora to adjourn at 4:30 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

AD HOC DEER HERD COMMITTEE MINUTES OF WEDNESDAY, DECEMBER 2, 2015

A meeting of the Ad Hoc Deer Herd Committee was held on Wednesday, December 2, 2015 and called to order at 3:00 p.m. in the Second Floor Conference Room, City Hall.

PRESENT: John Brakora, Josh Penland, Bob Hornkohl, Barry Peterson

ABSENT: Roger Zielinski, Tom Bruce Councilman Jim Smith

PURPOSE: To develop a long-term strategy for deer herd management;

provide recommendations to City Council.

APPROVAL OF THE AGENDA

MOTION by Bob Hornkohl, second by John Brakora, to approve the agenda as presented. Voice vote - Motion carried.

UNFINISHED BUSINESS

Draft Report to City Council – A final draft was sent to the Committee via email 11/23/15, with hard copies distributed at the meeting. Discussion continued on the draft report regarding traffic counts, deer herd population, and property damage. Josh Penland would like to see the committee continue, providing additional surveys for the next few years, an updated traffic accident report each year, and an aerial survey. The remaining members expressed no desire to continue the committee but to place this in City Council's hands; we have to start somewhere to solve the problem. This committee has no authority to budget or approve expenditures. If signed today the report would be presented to Council for their December 8, 2015 work session.

Jim Smith – Would be a long-term commitment by Council. This is a nuisance issue not a public safety or health issue. Money is tight and Council needs to serve the general population of the City. It is a management process and will take years to have any effect. Felt Council would be open to discussion next Tuesday by all committee members and encouraged the committee to attend the work session at 7 p.m.

MOTION by Bob Hornkohl, second by John Brakora, to approve and sign the final report of the Ad Hoc Deer Herd Committee; and further authorize its submission to City Council at the December 8, 2015 work session. Voice vote – Motion carried.

ADJOURN

This is the final meeting of the committee unless further directed by the City Council. *MOTION* to adjourn by Bob Hornkohl, second by Barry Peterson to adjourn at 3:49 p.m.

Cynthia Lokovich, CAP-OM Executive Secretary

Whitetail Deer Survey Results Fall 2015

Total Deer Survey Results-#120

- 1. Do you enjoy seeing the deer in the community? (please circle one)
 - a. Yes-#59
 - b. No-#36
 - c. Sometimes-#22
- 2. Are you experiencing any deer problems currently? (please circle one)

Yes #64

No #55

- 3. What deer related problems are you/have you experienced in the past year? (please circle all that apply)
 - a) Deer auto collision-#13
 - b) Browsing of vegetable gardens- #44
 - c) Browsing on ornamentals/flowers #73
 - d) Browsing of crops-#7
 - e) Human-habituated "too tame" deer- # 55
 - f) Orphaned fawn-#6
 - g) Other: "I have seen a deer that looked very unhealthy."

"Ran into me as I walked into the house."

"Had \$1500.00 damages on car going into or on driveway."

"Found skeleton of fawn by house and bike deer near collision."

"none X 21

"Droppings in yard" X 9

"Buck threating pose"

g. continued- I have adapted and have started using sprays and fences to protect, Also have learned what can be planted."

"No problems and we have tons of deer."

"Massive droppings on our lawn- pawing and digging up bulbs during winter/spring-bucks rubbing on young trees."

"Traffic Hazards- individuals parking on street to view deer; feeding of deer in neighborhood, deer droppings associated w/worm infestation in dog."

"Too many on Cherry Street."

"Deer broke window."

"Ticks- Ticks in my yard."

"Continually jump our picket fence and break off the pickets with their hooves. This spring we've had fawns get stuck between the pickets."

"Fawns stuck on Jefferson school playground."

"But I have found bags to hang from my garden."

"None really. Nothing I call a problem."

"The deer do not browse, they destroy."

"Starving deer in the winter."

"No problems with deer."

"Concerns for safety of children during rut."

"Sleeping at night in yard."

"Browsing on Forsythia hedge which is a natural retaining wall for the backyard."

"Fleas/Ticks"

"Maimed deer is three legs only."

"They eat everything-including geraniums on my front porch."

"We have to spray flowers to keep deer eating them BUT this is a small price to pay for the pleasure of watching them."

"Deer impaled on 6'iron fence."

"Deer running into house fence."

4. What level of severity of any deer problem you've experienced in the past year? Given a scale here, with 1 being no problem, 5 being severe:

a) Deer-car collision d) Browsing of flowers #1)57 #1)39 #2)10 #3) 2 #3)4 #4)4 #4)5

#5) 9 #5)50

b) Browsing of vegetable gardens e) Browsing of crops

#1) 51	#1)58
#2) 2	#2)0
#3) 1	#3)1
#4) 4	#4)2
#5) 34	#5)12

c) Browsing on trees/ornamentals f) Human-habituated "too tame" deer

```
#1)44 #1)43

#2)8 #2)2

#3)8 #3)79

#4) 3 #4)5

#5)47 #5) 33
```

Other-" \$4,850.00 to repair my Buick, \$175.00 to repair mirror on my truck."

5. Have you taken any actions to alleviate problems?

Yes-77 No-38

- 6. What actions have you taken? (check all that apply, and indicate how successful the action was on a scale with 1 being ineffective and 5 being highly effective)
- a) Tolerance/ no action

(#26 checks) #1)12 #2) 0 #3) 2 #4)0 #5) 11

b) Switched to planting deer-resistant flower/plant varieties

```
#1)19 #2) 10 #3) 8 #4) 7 #5) 12 (10 checks)
```

c) Used fencing / netting / barriers

#1)14 #2)11 #3) 5 #4) 6 #5) 11 (6 checks)

d) Used repellants

#1) 25 #2) 13 #3) 8 #4) 5 #5) 12 (7 checks)

e) Scare devices

#1) 21 #2) 5 #3) 0 #4) 0 #5) 0 (3 checks)

f) Hazing- i.e. using scare tactics to re-install natural fear of humans

#1) 25 #2) 3 #3) 1 #4) 1 #5) 1 (2 checks)

- 7. What kind of deer problem management program is acceptable to you?
 - a) Prefer non-lethal (no killing of deer) options only. #55
 - b) Prefer lethal (killing of deer) options only. #31
 - c) Combination of above #28
 - d) No opinion / don't care. #4

- 8. What specific actions are acceptable to you? (please circle all that apply)
 - a) Do nothing leave deer alone. #50
 - b) Non-lethal measures- dart deer with contraception vaccine or use surgical sterilization. #31
 - c) Non-lethal landscape protection measures- public education and workshops on deer resistant gardening/ discounts at local garden store- 34
 - d) Lethal measures- archery hunting #53
 - e) Lethal measures- shotgun hunting # 43
 - f) Lethal measures- sharpshooting program # 52
- 9. How do you feel about deer? (please circle)
 - a) I enjoy the presence of deer. #57
 - b) I enjoy the presence of deer, BUT I am experiencing some problems #17
 - c) I do not enjoy the presence of deer and regard them as nuisances. #46
 - d) I'm concerned about collisions. #41
 - e) I'm concerned about Lyme disease. #52
- 10. How do you feel about expanding hunting in the community? (please circle)
 - a) I do not support the hunting of deer locally. #63
 - b) I support the hunting of deer locally. #49
 - c) No opinion / don't care either way. # 4

11. Additional comments:

Comments per survey match number on city map.

- #1 Allen and Lucy Gagstetter: "No hunting in city limits, Too many idiots hunting would endanger local residents. Have professionals reduce or relocate deer to public lands, national forests etc. "
- -Browsing of plants and for combination/lethal-
- #2 Hellen Grabowski: "There are too many deer

in the city. I support using lethal measures to reduce the deer population. The city should not wait any longer to implement a plan to decrease the deer population. I hope the city comes up with a plan soon."

-browsing of plants and combination method-

#3 Joyce Patton: "Deer were here before us. Let's live in harmony with nature. Unfortunately household pets can carry ticks which also can carry lyme disease." -browsing of plants and for non-lethal method-

#4 Mark Wittlieff: Browsing, too tame, non-lethal landscape

#5 Jeff Pefley: "Take a look at Midland, Mi. and how they manage their problem." Browsing of plants, for archery hunting yet fence was #5 effective.

#6 Gerald Cushing: "Have been bitten by deer tick-concerned about Lymes. Please adopt ordinance against feeding deer in city."

-browsing and combination method-

#7 David Tennant:" Our deer are too tame. Over time they have grown not to be afraid of humans or dogs and have no natural predators in town. This is not good for deer or humans. Removing or relocating I feel is best for both."

-browsing, combination method-

#8 Daniel Green: "I do not support lethal culling of deer in the city. I do not oppose deer hunting generally. Culling hunts are not effective if the food supply is not restricted." Deborah Green: "I do not support any kind of deer hunting in the city limits. The city of Manistee is a beautiful area with many parks and trees. This is one reason I chose to live here. I believe there are many ways that the people and the city to deal with any problems that the deer might cause besides culling. I am very opposed to culling as a solution." -no problems, tolerance, non-lethal, do nothing-

#9 John Lipa: "Donate meat to food shelters, have small child and don't care for deer poop in vard."

Jalie Lipa: "Deer and hunting belong in the forest, not in the city. I'm highly concerned about deer ticks and lyme disease. We have found ticks on us this summer from our yard. Im hesitant to send our boys in the yard to play due to deer poop and deer ticks."
-Browsing of plants, combination method-

#10 John and Hope Hogan: "I feel it's not really fair to the deer to feed them and then shoot them. So I would be for a law against feeding the deer. I believe the population would decline on its own without artificial support."

-browsing, non-lethal methods, non-lethal landscape

#11 Norm Rebedes:- Some browsing, lethal method-

#12 Carol Fox: "They were here first! I might see five or more at once and then do not see any for a few days. Winter is hard for them and I confess I feed them once a while. They are quite lovely. I will resist feeding them this winter.

-browsing, non-lethal method and landscape, lethal by archery.

#13 Brad and Karen Solberg: Brad- "Deer population is only getting worse. Do not see them as a tourist attraction. I don't feel "I" council person's opinion should have cancelled the last cull." Karen- "Moved to Tamarack St. 2000' there were usually 3-4 deer in out backyard. Now 2015 typically amount 8-10 or as many as 20+. Each spring we find 3 fawns. Do the math-a major problem for years to come. Our concerns should be addressed."
-Browsing of plants, too tame, combination method, non-lethal-

#14 Barry and Carmen Luedke: Barry-" I hunt deer. I eat deer. I like watching them in the wild, not in the city. Someone being unaware of the problem may be killed or injured. A buck in the rut may attack a human at some time." Carmen- "Deer are beautiful animals, but they belong in the country where they came from."
-Browsing of plants, lethal method-

#15 Linda Bladzik: "Choosing to live within the city limits should mean we have to deal less with the wild life whose natural habitats are the open fields and woodlands."

#16 Pamela Schulz: "A hunt is needed when babies are being born two at a time." – Browsing of plants, lethal methods

#17 Joan and Delano Peter- Joan: "I enjoy the deer-there are Gods creation and they should have the same treatment as other animals." Delano- "I love the deer." –No problems, Tolerance, non-lethal method only, do nothing leave deer alone-

#18 John Kauser: "Man has caused this problem. We have built on their range/land. We have fed them (not us) and made their environment inviting to stay. Please cull and repeat culling."-Browsing and lethal method-

#19 Susan Brown/ Jon Maden/Keith Brown "The deer have been living in the city now for many years. The no-feed being proposed should not be started till the fall. I really don't think the animals are the problem in this community."

-No problems, non-lethal, leave deer alone, Switch to planting deer resistant flowers and fencing and is very effective- Jon-"Any qualified wildlife biologist will tell you eliminating a portion of deer in a given area will only attract more deer into that particular herd." Keith-All of this fallderall is nothing but a huge waste of taxpayers' dollars. Move onto real problems plaguing Manistee and leave God's creatures ALONE."

#20 Susan Franklin: "This is no longer a landscaping issue. It is a public health and safety issue. The DNR gave council guidelines for culling deer last year. I suggest that you take this recommendation and take action soon."

-Browsing of plants, lethal methods-

#21 Mary Lou Racine: "Deer are fine out in the country. We have way too many deer in the city. I am absolutely in favor of a cull, but you have to also enforce a "no-feeding ordinance."

#22 Gary Patulski: "The city of Manistee is in a National Forest- Nature and thus deer are part of it. Be careful not to destroy our area and what visitors come see. What will be next cut the trees down?"

-Browsing, non-lethal method and non-lethal landscape-

#23 Ronald Wells: "Stop people from feeding the deer. Wife wants all deer killed." – Browsing, lethal method-

#24 Mark Dangel: lethal and non-lethal methods

#25 Deborah and James Raupp: Deborah-"I pay a substantial amount of property taxes to the city of Manistee, but my property is not mine, it belongs to the deer. They control it." James-I feel the city council of the City of Manistee wants to have and maintain a local "Pet Deer Herd" within the city limits of Manistee. Some of my reasons for feeling this way is 1) Mayor Kenny some years ago said "if you don't want deer in your yard put up a fence around your yard. 2) after having a legal vote from city council to cull deer herd within city limits the city rescinded this action before it was carried out for no apparent reason." — Browsing of plants, too tame, lethal methods-

#26 Chad Gibson: "I have adapted and have started using sprays and fence to protect. Also have learned what can be planted. What a complete waste of taxpayer dollars! Fix roads, sidewalks, attract new business! Whittle the emotions out of this-stick to the facts and SHARE those facts with residents."

#27 Haw: "When I moved here in 1991'I use to grow a large garden in my back yard (1991-2001) I gave it up because the deer ate everything. I could fence but why should I in my own backyard?" —Browsing, lethal method-

#28 Harry Arramowski: "The deer problem has been discussed for several years, It is now time to do something." - Browsing, too tame, lethal method-

#29 Kathryn Rakczynski: "We are fortunate to live in an area where we can enjoy the deer. If people don't want them in their yards then plant things that deer don't eat. It would be a shame to extinguish the deer because they are bothering a small number of people and not the vast majority."

-None, prefer non-lethal option only, leave deer alone-

#30 T. Eftaxiadis: "They increase in numbers every year in the last 6 yrs. Seasonal residents feed them in the summer and let them starve in the winter. Allow ordinance for electric fencing. If the deer population isn't reduced, nature will take its course."

-Browsing of plants, lethal and non-lethal methods-

#31 Roger Elbers: "In no case do I support having our police or other public employees spending paid time hunting our deer. If the deer are removed, as long as there is food, new

deer will move into the city. Public education and workshops on deer resistant gardening should be the action the city takes."

#32 Debra A Leen: "The seasonal residents have encouraged the current problems with deer in this community. By feeding and protecting the "city herd" these deer are becoming dependant and in-bred, People found feeding and humanizing the deer should be fined as much as hunters who are caught baiting." —Browsing, lethal methods-

#33 Richard Morehouse: -None, Non-lethal, enjoy presence, leave deer alone.

#34 David Hackney: "Support-no discharge of firearms or archery within the city limits. Do not believe a problem exist involving deer within city limits."

-None, No method, leave deer alone, enjoy presence.-

#35 Mark and Sara Herberger: Mark- "I work for the Forest service and I know firsthand that the number of deer is well above carrying capacity of the environment. Despite what the general perception is, we have far too many deer." Sara-" I think any killing of deer should be done by specialists- wildlife biologists, police, a specific person or team of people who are trained in specific methods to put down animals quickly and humanely. Safely in our community (whether lethal or non-lethal) I do not support hunting of deer."
-Browsing of plants, Too tame, lethal and non-lethal.

#36 Donna and John Green: Donna-" I have several apple and pear trees in my yard. The mess they leave under them and in the whole yard is deplorable." John-" KILL THE DEER." – Browsing of plants, combination and lethal method-

#37 Martin and Lynn Skiera: "Manage the herd at a reasonable level. Something sustainable. Rutting deer could become a problem."

-Browsing of plants, too tame, lethal methods-

#38 Jeff Skiera: "Fleas/Ticks" -Browsing of plants, Too tame, lethal method-

#39 Mary and Geoff Paine: Mary- "We live by Jefferson school and have had 3sets of twins/fawns this summer. The deer poop is horrible." Jeff-"I am not in favor of shooting within the city limits. However I realize this maybe the most cost effective option for herd control." —Browsing of plants, Too tame, lethal and non-lethal method and non-lethal landscape.

#40 Andrew Richards: -Browsing of plants, Too tame, Deer repellant effective, lethal and non-lethal method.

#41 Geri Heiminiak: Non-lethal, Do nothing leave deer alone.

#42 Molly Cinchy/ Mike Fatke: Molly-" I am much more concerned about the 20+ home invasions that have occurred over the past several months than I am about deer being a

nuisance. I would much prefer the city protecting its citizens from criminals than protecting us from deer. Deer don't scare me. Let's get our priorities straight." Mike-"Please put this issue to rest, enough already concentrate on important issues. i.e. roads, crime, reducing the millage."

-Non-lethal methods including landscape-

#43 Richard Anderson-" The use of Deer Stop works well and only need to be applied every 45 days, its simple and doesn't cost much."

-No current problems- Non-lethal methods, 4th Avenue

#44 Birney Summers: "No new laws please" –Browsing, Non-lethal method, Do nothing leave deer alone.

#45 Galen Hull: "Leave the deer alone!!! Folks should fence shrubs or plant shrubs they won't eat. Drivers need to pay attention to driving." —None, all non-lethal, enjoy presence of deer

#46 Patrick Palmer: Non-lethal method, do nothing

#47 Jean and John Rowe: "We have a dog (next to large size) who watches for deer and is rarely disappointed with the opportunity. Our main concern other than planting, is regarding ticks." —Browsing of plants, Too Tame, Non-lethal methods, enjoy presence of deer but are experiencing problems-

#48 Beth Palidan: "The deer herd should be thinned out and should be done on a regular basis, culling helps to keep the deer healthy. The culling should be done by professionals and it will be handled safely." —Browsing of plants, Too tame, Lethal methods-

#49 Roger Krusniak: "Professional culling would be my preference. On Sept 8th, 2015 Day two of school at 8:00p.m. there was "12" deer on Jefferson school playground, this is common and does seem un-sanitary and potential deer tick problem." –Browsing of plants, "scare devices" combination methods-

#50 Mr. and Mrs. G. Root: "Browsing of plants, lethal and non-lethal methods, enjoy deer but are experiencing problems-

#51 Jane Schimke: "We drive 25mph (or less) in the city", switched to planting deer resistant flower/plant varieties, used repellents, solved problem-

#52 Dick and Marilyn Lindeman:- Some browsing of plants, switched to planting deer resistant flowers/ plant varieties, used repellents, effective-Non-lethal methods

#53 Kevin Krause: "The deer are a plus to the neighborhood. We do not feed them but enjoy having them pass thru." -Tolerance/ no action Non- lethal methods, do nothing-

#54 Richard Kamaloski: "We moved in on their territory, I say just enjoy and drive carefully." -Browsing of plants, Non-lethal, Do nothing

#55 Mike and Jill Stenberg: "We have to spray our flowers to keep deer from eating them, but this is a small price to pay for the pleasure of watching them. We have always tried to plant deer resistant trees and shrubs and we spray around our flowers. Hunting in Manistee isn't very safe either." —Minor Browsing of flowers, Non-lethal, do nothing, leave deer alone. Enjoy presence of deer-

#56 Mr. and Mrs. Thomas Stege: "No problem we enjoy them" No opinion/don't care, do nothing/leave deer alone.

#57 Dave Ranville: None, Non-lethal, Do nothing

#58 Roger and Sara Huckendubler: Roger- "The deer population in the city continues to evolve in several ways: 1) Feeding habits, adjusting to deer resistant plants. 2) Getting more domesticated and very tame. —Browsing of plants, Too tame, Lethal methods-

#59 Richard Jensen: -Browsing of plants, Non-lethal, do nothing, enjoy presence of deer-

#60 Gerald Pieczynski: -Browsing of plants, Too tame, Lethal methods

#61 William / Sharon Miller: No problems, Non-lethal methods, enjoy deer-

#62 Tom Opalka: "If people would stop feeding them in Manistee the deer population would likely look for food elsewhere. Why not neutralize deer (mainly does) and move or relocate them out the national forest area"

-No problems, Non-lethal methods

#63 Gina Pavnicka: "Let nature be nature" Non-lethal, do nothing, I enjoy presence of deer-

#64 James Payne: "The city of Manistee is nestled on the edge of a national forest. The naturalistic setting of Manistee is one of the reasons I chose Manistee." Browsing pf plants, Non-lethal methods

#65 Leonard Opalka: "Browsing of plants, Lethal methods

#66 Sandy Schroeter: "Folks that have problems with deer in their yards should plant vegetation/flowers deer don't eat. I treasure wildlife in my area, that's why we live up North. If they do prune a little, deer stop works also.

#67 Marjean Mudham: "Really enjoy watching the deer, one of the reasons I enjoy Manistee. " –No problems, Non-lethal, do nothing-

#68 Carol Westberg: : "If there isn't an ordinance prohibiting the feeding of the deer there should be. We also need this ordinance to include all wild animals. I don't like the idea of killing of any animals in the city limits, too dangerous, accidents happen."

#69 William and Mary Kracht: Browsing on plants, Non-lethal methods including landscaping "Not a problem."

#70 James and Jean Smith: James-James- "Hunting locally would cause deer to be more reclusive and provide a "no cost" impact to population. Local ordinance and education are only as effective as enforcement and public involvement. Lyme disease (from black leg ticks) will not be diminished by killing deer. Studies indicate ticks simply feed off smaller mammals and have actually increase in numbers according to research where deer population have been eliminated. This is an emotional issue and often times claims have no basis in facts. A long-term plan would be necessary with community support-there is no one time or short term solution, as deer will repopulate an area that offers food and safety from natural preditors. A professional and studied solution should be embraced-police officers are trained for public safety and our not professional hunters or experts in deer population control." Jean-"Ticket and fine people for feeding deer in the city."

#71 Timothy Culver: Lethal measures

#72 Bob Lynn: "Outlaw feeding of deer."

#73 Alfred S. June Pallonittini: "Meridian TWP near Lansing has experienced 3 cases of CWD." June-" Also concerned with CWD." - Browsing of plants, Lethal Measures

#74 Gregg King: "Deer Ran into me as I walked into house." "Before new high school was built, before removing sand at 1st street beach, before the building of condos no Deer problem, of course there was no habitat study done before issuing permits."- Browsing of plants, combination/lethal methods-

#75 Barry Lind: "I raise vegetables to feed my family. We can't store much of what we grow. Its not just a hobby. "Broke fencing, Browsing of plants, Too tame, Lethal measures

#76 Bradley / Joan Kolk: Bradley- "Recreational baiting should be eliminated. City wide ordinance should be strictly enforced to limit the bedding areas for the deer."- Browsing of plants, combination lethal methods-

#77 Elizabeth / Robert Mattice: Robert-" Leave the deer alone. We have more individuals in this community that are less desirable and more financially and socially destructive than

deer." Elizabeth-" I am of the opinion that these deer have been born and raised in our city. Harming them would be like harming your neighbors dogs. They do not fear humans." Non-lethal, do nothing

#78 Elizabeth and Aaron Bennett: Aaron-"I would like permission to hunt wild turkey in my front yard with an air rifle. I would happily pay \$100-for a permit in addition to relevant DNR licenses. Please Consider!!" Elizabeth-" I am okay with my husband hunting wild turkeys in our front yard, if he can keep one for Thanksgiving!!" —Browsing of plants, Tolerance, Repellents (effective), Non-lethal methods, Leave deer alone-

#79 Elizabeth Laskey: "Let the law officers remove the deer or hire someone-I don't believe the locals should remove them. We have had close calls with deer while bike riding, walking, and riding in car."—Browsing of plants, lethal methods-

#80 Karen Palmer: "Are electric fences legal?"
Browsing of forsythia hedge which is natural retaining wall for the backyard."

#81 Joan / Scott Gamache: "Deer broke window" Non-lethal methods, switched to deer resistant planting (effective)

#82 Dale / Ruth Barrett: "I would like to see deer cull-with meat going to families-would like to see new ordinances not allowing feeding of any sort of wild animals in the city. We spend \$ every Spring to enhance the appearance of our home with many flowers, this year we didn't see any blooms-they all got ate soon after blooming. This year we are also experiencing the deer coming up on our front porch to graze."
-Browsing of plants, Combination method-

#83 Paul T. Gunderson: "We also now have "Gawkers" who probably came from deerless neighborhoods that park and gawk at the herds in my yard-somewhat unnerving. I treated cases of Lyme Disease."

#84 Jerry Brown: Browsing of plants Lethal methods

#85 David Moehring: Browsing of plants Too-Tame, Combination method

#86 Linda Anderson: "None"

#89 John Bauer: "No hunting of any kind in the city!"

Comments on the Survey – from Laura Simon via Email to Josh Penland

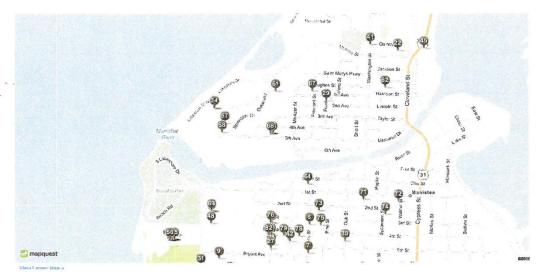
It appears that while Manistee residents have differing views on deer, the majority enjoys the presence of deer and do not support hunting locally. Almost double stated they enjoy seeing deer as those who don't. Over half of the respondents said they are experiencing deer problems, primarily browsing on flowers, vegetables, and ornaments. There was also concern expressed for the deer being "too tame." Interestingly, respondents reported few collisions and not a significant level of concern about deer-car accidents.

Of the respondents who tried methods to reduce deer problems, they reported that hazing and scare devices were not effective. Of those who tried repellents, more people experienced a lack of success than those who had success. There was more of a split in outcomes for those who tried using deer-resistant plants or fencing. These results indicate a clear need for public education on how to utilize these deer deterrence techniques, such as the proper use of repellents, which deer-resistant plants/flowers are most effective, and how to properly haze deer. ¹

In terms of what kind of program they prefer, the clear majority of respondents prefer non-lethal methods. This finding is consistent with national surveys on the public's attitudes towards wildlife. In terms of their support for specific actions, an equal number of respondents supported "doing nothing" as supporting archery or sharpshooting. There was a lower but significant level of support for fertility control options. The relatively high level of concern about Lyme disease underscores the importance of doing public education and outreach on this issue as well².

¹ Scare devices don't tend to work unless they're moved around a lot, and kept in good shape, which most people don't tend to do. Likewise, some repellents are better than others, and all need to be reapplied every 2 weeks and after heavy rains, which again, most people tend to not do.

² I.e. about how scientific studies show that killing deer won't reduce Lyme disease, but people can take preventative steps such as the 24 hour body check, wearing light tucked in clothing, etc.



MapQuest Maps - Driving Directions - Map

Page 1 of 1



^{*}Survey Map does not include the last six surveys received after the deadline.

USDA APPLICATION FORM (FOUR PAGES)

Cindy Lokovich

From:

Aderman, Anthony J - APHIS <Tony.Aderman@aphis.usda.gov>

Sent:

Tuesday, November 03, 2015 1:37 PM

To:

Cindy Lokovich

Subject:

Wildlife Services agreement form

Attachments:

WS 12A Mar 2010 Final09-18-12.pdf

These would have to be filled out by any private/city /state landowners before we could conduct any direct control activities on the property. Give me a call if you have any questions

Tony Aderman

Tony Aderman District Supervisor USDA/APHIS/Wildlife Services 1865 O'Rourke Blvd. Suite C Gaylord, MI 49735 (989)217-3086 direct line (989)705-8467 office (989)619-6045 Cell

inf	cording to the Paperwork Reduction Act of formation unless it displays a valid OMB cor quired to complete this information collectio arching existing data sources, gathering an	ntrol number. The valid OME on is estimated to average .0 od maintaining the data need	B control number for this in 159 hours per response, in ded, and completing and re	formation collection cluding the time for	n is 0579-033 reviewing ins	5. The time structions,	OMB Approved 0579-0335				
						Initiation	2. / / MM DD YYYY				
⊢	WORK INITIATION DOCUM		DAMAGE MANAGE	MENT	Docume	nt Number					
ž	3. TYPE OF WORK INITIATION DOCU				a.						
SECTION 1	Private Property Tempor	ary Non-Private	e Property Assign to T	hese Special Group	ps						
SEC	Adjacent Landowner Amendr		t to Existing		c						
\vdash	— Work in	Work Initiation Doc. Work Initiation Doc. d.									
ı	4. Cooperator's Name										
	Last 5. Cooperator's Address	2	F	First Middle							
		Street				City					
N 2	Where will work be performed? (give address or directions, if different from	om above)									
SECTION 2							_				
S	Business/Farm/Ranch/or Common Na	ame				7State	ZIP Code				
ı	8. Owner's or Representative's Name	-			9						
ı	10. Owner's or Representative's Addres		(If different from Cooperator's,			Cooperator	Telephone Number				
	(if different from Cooperator's)	Street		City		State	ZIP Code				
	11. WS Employee and Work Location Information:	12. Land Class Informati		Adjoining Property	Work	14. Species In	formation:				
ı	mornation.	Land Class	Acres Info	imation Document	ivumber(s).		15				
ı		1	1			1					
N N	WS Employee Name	,	,			2					
SECTION 3		l 4.					-				
S	County	3	3			3					
ı		4	4			4					
ı		Total Acres 0				15. If b	ox is checked, attachment				
⊢	State 16. In consideration of the benefits to be de	erived from the proper manage	ement of damage caused by	those species listed	in Section 3 I	NO TRACE ATTREES LINGUIS	ditional species.				
4	undersigned cooperator or cooperator's rep employees, and agents) to use, upon lands	resentative, do hereby give m	y consent and concurrence	to the Animal and P	lant Health Ins	pection Service (A	APHIS) (to include its officials,				
SECTION 4	COMPONENTS: 1		2	,		3					
SEC	4		5			6					
	If box is marked, an attachment lis	ts additional methods or de-	vices.								
2	17. I, the cooperator or cooperator's rep										
N N	be used, and of the possible hazards as precautions to safeguard all persons to p	prevent injury to animal life of	other than those listed in S	ection 3, Item 14. (and Item 15.,	if applicable); gu	ard against the mishandling				
SECTION	of control devices and materials; and exercise restricted use pesticide application recor										
l s	information promptly upon the property of site as part of component or activity track	owner's or cooperator's required in a serie of the cooperator of the cooperator's required in a serie of the cooperator's requ	uest. I understand that AP	HIS may collect Gl	obal Positioni	ng System (GPS) coordinates at the project				
	18. In consideration of these understand	dings and of the benefits to	be derived, I, the coopera	or or cooperator's r							
ON 6	prevent injury to livestock and other dom the part of APHIS; assist in maintaining	such warning signs as APH	IS may place for the purpo	se of notifying pers	sons entering	onto such lands	of the possible hazards				
SECTION	associated with wildlife damage manage lands. Further, in recognition of the bene	ement measures in use there efits to be derived from the u	eon; and to give adequate use of specified methods a	warning of these p nd devices authorize	ossible hazar zed by this W	ds to persons I a ork Initiation Doc	uthorize to enter onto such ument, I, the cooperator or				
lands, Further, in recognition of the benefits to be derived from the use of specified methods and devices authorized by this Work Initiation Document, I, the cooperator or cooperator's representative, agree not to concurrently use or allow to be used upon lands covered by this Work Initiation Document, any toxic material that might reasonably be expected to take a species listed above in Section 3, Item 14. (and Item 15., if applicable) unless such use of said toxicant is agreed to by APHIS in writing											
SF	PECIAL CONSIDERATIONS:	and an an an an an an an an	The state of the s				to by an anomal manage				
SI	GNATURE AND TITLE (Landowner, Lesse	ee. or Administrator)	TELEPHONE NUMBER	ADDRESS			DATE				
				(
	CONSTRUCT AND TITLE (ADVICE D	(-4:)	TELEBUIONE AND ASSESSED	ADDDESS			B/				
SIGNATURE AND TITLE (APHIS Representative)			TELEPHONE NUMBER	ADDRESS			DATE				
	WS FORM 12A MAR 2010										

35 | P a g e

Instructions for Completing WS Form12A Work Initiation Document for Wildlife Damage Management

Section 1 - Basic Work Initiation Information Item

- 1. Work Initiation Document Number Record the assigned number for this document.
- 2. Date Enter the date the form is completed.
- 3. Type of Document Record the type of Work Initiation Document by marking the appropriate box(es).

Hint: A Work Initiation Document may have more than one characteristic.

Example: A Work Initiation Document can be a Temporary and Urban Document.

Assign to Special Groups: If this Work Initiation Document is to be tracked by special groups which are serviced, list them in this item.

Section 2 - Items in this Section capture data about the Cooperator

- Enter name of cooperator as it appears on the cooperative service agreement, cooperative service field agreement, Memorandum of Agreement or Understanding, or as it appears in the cooperator's business references.
- Enter the cooperator's address and alternate address or location if the primary address is different from the site where the work will be done.
- 6. Enter the name of the cooperator's business, farm, or ranch, if applicable.
- 7. Enter the State abbreviation and the ZIP Code.
- 8. Enter the name of the owner or cooperator's representative if it is different from the cooperator name, the area code, and telephone number of the owner.
- 9. Enter the Cooperator's telephone number, including the area code.
- 10. Enter the property owner's address (or property owner's representative's work address if this is a non-private agreement), including the ZIP Code even if it is the same as item 6. NOTE: If the cooperator's address in Item 5 is also the address of the owner, you need not complete this item.

Section 3 – Information about the WS employee conducting activities, the property being worked on, and the species being addressed is captured in this Section

- Employee Name, County and State In this subsection, record the name of the WS employee, and the State and county for the site where the work is being performed.
- Land Class Record the land class being worked on, and enter the number of acres for that land class. Record the
 total acres by summing all entries in the "Acres" column.
- 13. Adjoining Property If the Work Initiation Document allows you to work on an adjoining property as part of the project, you must have additional Work Initiation Documents signed by those adjoining land owners/managers. The Work Initiation Document numbers for those properties go in this subsection.
- 14. Species/Codes List the names of the species that will be targeted during the damage management activities. Official MIS abbreviations for the names of the species may be used.
- Additional Species If more species are targeted than can be entered in this block, mark this box and attach the WS Form 12A Addendum listing them.

Section 4 - Component Use Information

16. Components - List the type of components that will be used in the wildlife damage management activity. If more components are to be used than can be entered in the available space, mark this box in this Section and attach the WS Form 12A Addendum listing them.

Section 5 - Work Initiation Considerations - WS Responsibilities

17. Allow the cooperator to read this section, or alternately, read it to the cooperator before signatures are affixed.

Section 6 - Work Initiation Considerations - Cooperator Responsibilities

18. Allow cooperator to read this section, or alternately, read it to the cooperator before signatures are affixed.

Section 7 - Special Considerations

19. Special Considerations - If any special considerations are agreed to for this project, enter them in this Section.

Section 8 - Signatures/Dates

- Obtain the signature and address of the landowner, lessee, administrator, or representative of the project land(s). Enter
 a date when the document was signed.
- 21. The WS employee completing the form signs and enters the official title, telephone number, address, and date. Provide a copy to the cooperator after signature; keep one copy for your files, provide one copy to the State Office, and provide copies to other WS personnel/offices, as appropriate. The Privacy Act Notice required to be given to the cooperator is on the back of the Cooperator Copy of this form.

Privacy Act Notice

Title 5, United States Code, Section 552a(e)(3) requires that each agency that maintains a system of records provide each individual from whom the agency solicits information with the following information.

Authority for Requesting Information

Title 7, United States Code, Section 426-426c, and Title 16 United States Code, Section 667, authorizes officers, agents, and employees of USDA, APHIS, Wildlife Services, to conduct a program of wildlife service's and to enter into agreements with States, local jurisdictions, individuals, and public and private agencies, organizations, and institutions for the purpose of conducting such services.

Nature of Your Disclosure of Information

Disclosure of information solicited by USDA, APHIS, and Wildlife Services, is voluntary.

Principal Purpose for Which the Information is Solicited

Information is solicited from you for the purpose of executing and implementing agreements for control of wildlife damage.

Routine Uses Which May be Made of the Information

The routine uses which may be made of the information are:

Routine use 1 permits disclosure to cooperative State government officials, employees, or contractors, as necessary to carry out the program; and other parties engaged to assist in administering the program. Such contractors and other parties will be bound by the nondisclosure provisions of the Privacy Act. This routine use assists the agency in carrying out the program, and thus is compatible with the purpose for which the records are created and maintained;

Routine use 2 permits disclosure to the appropriate agency, whether Federal, State, local, or foreign, charged with the responsibility of investigating or prosecuting a violation of law or of enforcing, implementing, or complying with a statute, rule, regulation, or order issued pursuant thereto, of any record within this system when information available indicates a violation or potential violation of law, whether civil, criminal, or regulatory in nature, and either arising by general statute or particular program statute, or by rule, regulation, or court order issued pursuant thereto;

Routine use 3 permits disclosure to the Department of Justice when the agency, or any component thereof, or any employee of the agency in his/her official capacity, or any employee of the agency in his/her individual capacity where the Department of Justice has agreed to represent the employee, or the United States, in litigation, where the agency determines that litigation is likely to affect the agency or any of its components, is a party to litigation or has an interest in such litigation, and the use of such records by the Department of Justice is deemed by the agency to be relevant and necessary to the litigation; provided, however, that in each case, the agency determines that disclosure of the records to the Department of Justice is a use of the information contained in the records that is compatible with the purpose for which the records were collected;

Routine use 4 permits disclosure for use in a proceeding before a court or adjudicative body before which the agency is authorized to appear, when the agency, or any component thereof, or any employee of the agency in his/her official capacity, or any employee of the agency in his/her individual capacity where the agency has agreed to represent the employee, or the United States, where the agency determines that litigation is likely to affect the agency or any of its components, is a party to litigation or has an interest in such litigation, and the agency determines that use of such records is relevant and necessary to the litigation; provided, however, that in each case, the agency determines that disclosure of the records to the court is a use of the information contained in the records that is compatible with the purpose for which the records were collected:

Routine use 5 permits disclosure to appropriate agencies, entities, and persons when the agency suspects or has confirmed that the security or confidentiality of information in the system of records has been compromised; the agency has determined that as a result of the suspected or confirmed compromise there is a risk of harm to economic or property interests, a risk of identity theft or fraud, or a risk of harm to the security or integrity of this system or other systems or programs (whether maintained by the agency or another agency or entity) that rely upon the compromised information; and the disclosure made to such agencies, entities, and persons is reasonably necessary to assist in connection with the agency's efforts to respond to the suspected or confirmed compromise and prevent, minimize, or remedy such harm.

Routine use 6 permits disclosure to USDA employees or contractors, partner agency employees or contractors, or private industry employees to identify patterns, trends, or anomalies indicative of fraud, waste, or abuse.

Routine use 7 permits disclosure to the National Archives and Records Administration or to the General Services Administration for records management inspections conducted under 44 U.S.C. §§ 2904 and 2906.

Effects of Failure to Furnish Information

Failure to provide the solicited information will not subject you to penalties or adverse consequences.

Davis Aviation Aerial Survey Quote

The area of Manistee, Mi. as indicated on a Google Map, is 4.471 square miles, or 2861.44 acres. Davis Aviation can travel round trip from its home at Ravenna, OH to Manistee and conduct the deer count, do the analysis, and produce a report and maps similar to example provided for \$8,895. This amount is based on the 696-mile round trip from base, charged at \$2.50/mile and the count of 2862 acres at \$2.50/acre. A buffer zone on the land areas surrounding the city of about 500 to 1000 feet is included without additional cost.

I have a sample deer count report and also a couple of sample Google Earth KMZ files showing one way in which deer locations and distribution can be indicated on Google Earth. If Manistee has Larry Davis at Davis Aviation do the deer count, he will be happy to coordinate with the city's **G**eographic Information **S**pecialist (GIS) to discuss the mapping possibilities.

Please review the sample report, which has a bit of boilerplate information about how the counts are performed. Please write any questions or comments that may arise within Deer Committee or Local Government.

Please note that survey quote is 2861.44 acres and round trip cost. To lower cost simply lower acres covered.

Formulation- \$2.50/ acre multiply by number of acres

PLUS

\$2.50/ mile 696-mile round trip

However it is highly suggested to have entire city surveyed first, then isolate quadrants to double check annually on population incline or decline. Annual surveys over time show a trend with deer populations are increasing or decreasing in a given area.

Larry Davis

Aerial Infrared Deer Count Report

County Metropark Authority Pilgrim and River Run Parks

18 January 2002

The County Parks listed below were the subjects of an aerial infrared (IR) deer count flight on the dates noted. The IR imaging conditions were good to excellent during both nights. Additional details can be found in the analysis notes below.

This report package includes this written report, VHS videotapes of the raw infrared imagery of the count areas, map printouts of the deer count and dispersion within and near the count areas and a copy of each map in .jpeg format on CD-ROM. Deer, possible deer and domestic animals are noted on the maps by dots of different colors. Deer are red, possibles are gray or yellow and domestic animals such as horses or cattle are dark blue. The dots representing animals cover an area approximately 30 to 40 feet in diameter on the maps so they can be seen and printed easily.

Results:

DEER

METROPARK	Acres	Ins	id	le/l	ossik	ole //	Outs	ide/l	oss	ible	//
Domestic 12/26/2001 Pilgrim Metro Park	1200	17	7	1	7	//	78	1	3	//	2 in
12/31/2001 River Run Metro Park	2000	79		1	5	//	75	1	1	//	

n/a Analysis Notes

Pilgrim Metro Park 12/26/2001

The aerial infrared imaging flight for this park was conducted between 2248 on 26 December and 0045, 27 December 2001. Imaging conditions were good. Surface winds were from 220 degrees at seven miles per hour, with winds at the imaging altitude of 1500 feet above ground level (AGL) from 250 degrees at ~15 mph. The ground was covered with 2-4 inches of snow that was about two days old.

Average air temperature was –7 deg. C. The cloud ceiling was broken at 9000 feet AGL, with two scattered layers below. A very light snow was falling during portions of the flight and there was light to moderate turbulence from beginning to end.

River Run Metro Park 12/31/2001

The infrared imaging flight of River Run Park was conducted between 2255 on 31 December and 0128, 1 January 2002. Imaging conditions were excellent and small animals were easily visible on the ground and in the trees. Surface winds were initially from 210 degrees at five miles per hour, later changing to 200 at 10 mph. Winds at the imaging altitude of 1500 feet AGL were WSW at about 10 mph. The ground was covered with a few inches of snow that fairly fresh. Average air temperature was -9 deg. C. The sky condition was clear with no turbulence.

Mapping:

If the deer count number and dispersion information is destined for a Geographic Information System (GIS) and AutoCAD files have not been provided, my recommended method of transferring the data into the GIS is to import the map image file and overlay/register it on an existing map of the park. Use an input device (mouse, pen, etc.) to rapidly note the location of each dear count 'dot' as a new data

point. Once these data are entered as a new layer, the imported map can be discarded from GIS, leaving the new 'deer count' layer to be incorporated with other GIS data and maps. If AutoCAD or .dxf files have been provided, one of these formats should be directly transferable into the GIS system so the 'deer dots' can be placed into any desired map type produced by the park system.

Equipment:

This count was accomplished with a single-engine Cessna 182 airplane and using a high-resolution Mitsubishi M-600 thermal imager oriented 'looking' straight down through a camera hole in the belly of the airplane. The thermal imager NTSC video output is routed through a video encoder-decoder (VED) that labels the video with a continuous stream of GPS-derived position, time, date, speed and altitude information. A guide to the alpha-numeric annotation seen on the accompanying videotape may be found at the end of the specification block below. A bar code of the same GPS alphanumeric information is recorded on the far left side of the imagery although it may not be within the visible portion of a conventional TV screen. The bar-coded information is used by the VED during video playback and analysis. The annotated video imagery is recorded with a Sony MiniDV digital video cassette recorder using digital videotape capable of storing 500 horizontal lines of video information (over 50% more than the 330 lines found on conventional VHS videotape.) The mapping program used for marking the count area borders and laying out the flight lines is DeLorme's GPS Link II and MapExpert version 2.0.

Mitsubishi M-600 thermal imager specifications:

Detector	Platinum Silicide Schottky-Barrier IRCSD
Number of Elements	512 X 512 pixels
Detectable Wavelength Band	3 to 5 microns
Lens	Infrared, polarized f50 mm, F 1.2
NETD (Noise Equivalent Temperature Differential) Field of View (using f50mm lens)	0.08 degrees C blackbody at 80.6 deg. F. (27 deg C) using f50 mm, F 1.2 lens 14 degrees horizontal X 11 degrees vertical
Field Time	1/60 second
Cooling Method	Stirling Cycle cooler
Image Display	Monochromatic, 256 gray levels
Video Output	RS170 video output (1 BNC port, 75 ohms)

Annotation Guide:



Flight Methodology:

The counts are flown at an average altitude of 1500 feet above ground level. The camera view directly below the airplane from that altitude is 375 feet wide on the ground surface. Flight lines are spaced an average of 325 feet apart to allow for image overlap and 100 percent coverage of the study area. A 'bread crumb' feature of the mobile mapping software used for the flight allows me to track my flight path and helps guide me along predetermined flight lines to assure complete coverage. The recording device is normally paused during the turns outside the study area, hence the tape appears to jump from the end of one run to the beginning of the next.

Analysis Methodology:

After the flight, I analyze the videotape using a TV monitor and a computer monitor. As the videotape plays, the VED decodes the bar-coded GPS signal that was received from the GPS during the flight.

The VED recreates the original GPS signal and sends it to the computer so the mobile mapping software 'thinks' it is receiving a live signal. The mapping software shows the moving position of the airplane superimposed on a street map on the computer screen while the recorded infrared imagery of the area below the airplane is visible on the TV monitor. The GPS updates the airplane position once per second throughout the flight and at the same rate during the post-flight analysis.

To count the deer, I watch the entire tape, pausing and playing it backward and forward at regular speed and in slow motion, as necessary. Generally, for each hour of tape, three or more hours of analysis and reporting are required to complete the count. As I view the tape and note the deer, I mark each one as a dot on a computer version of the maps accompanying this report. When I have viewed the entire tape, I count the dots on the map to find the number of deer in the count area. If I note large domestic animals on the computer map, I mark them with a different color dot. In these counts, red dots denote deer, gray or yellow dots (if any) denote possible deer or other unknown animal similar in size to a deer but apparently not a deer and blue dots (if any) represent domestic animals such as cattle, sheep or horses. These animals are always much warmer and in the case of horses and cattle, substantially larger than any deer.

Deer usually appear as a fairly bright white dot or narrow line (similar to a grain of rice) in the infrared imagery. In this imagery, white and lighter shades of gray represents warmer objects while black and darker shades of gray are cooler. Other white (warmest in the scene) objects that are common are roads and pavement that retain latent heat from sunshine during the day, man hole covers, street lights, house lights, fires, furnace stacks on houses, car engines that are running or have run recently, groundwater seepages, puddles, ponds, streams, rivers and large rocks and boulders in the woods. Other animals in the picture are often white or bright. Domestic animals are commonly very bright—hotter than deer, which have highly insulating coats.

In order to count deer with a high degree of confidence and accuracy, several factors have to be taken into account. Among them are deer infrared signatures, background infrared signatures, deer behavior and location. Questions I am commonly asked, and the answers I give, include the following:

Q. How do you know you are not counting the same deer twice?

Given:

- deer are not disturbed by a light plane flying more than a guarter of a mile above them.
- deer often congregate in groups of two or more—up to 20 or more in extreme cases,
- deer generally move very slowly as they graze, congregate or rest,
- deer live and act according to generally well known behaviors,
- I fly along a well documented flight path with an 'infrared view' of a known area below the aircraft that is recorded on videotape.
- A. With the help of the moving map program, I can place dots representing deer on a map in their respective positions and orientation to one another quite accurately, particularly when referring to the nearby streets, intersections, rivers and streams that may be in view or recently in view on the videotape. As I analyze the tape, becoming quite familiar with the 'neighborhood' of the count area (houses, roads, hills, streams, rivers, golf courses, trails, etc.) and place the dots on the map, I recognize specific deer and groups of deer as I pass them a second and sometimes third time. For example, I may see and place a group of three deer/dots in an equilateral triangle near a trail a few seconds after passing a particular road. In the case where I first saw them they may have been on the right side of my screen. When I fly the next adjacent run, thanks to overlapping imagery, they may appear on the extreme left side of the screen. Very often, they will be in the same spot or not far from it, in the same or similar 'formation' five, ten, fifteen or even thirty minutes later. If I fly along and see a lone deer in the forest, it will still be there in the same general area when I make adjacent passes. On occasion, I will fly over a group of deer in an area, and on subsequent passes, I will see an additional deer that I did not see earlier because it may have been out of the picture, too close to another deer (appearing larger than normal—but not counted as two) or it may have been obscured by a tree or foliage on the first pass. In those

cases, I add the dot to the map. In uncommon cases where deer are moving quickly, I will look for them elsewhere in the direction they were originally seen moving. If I later see deer in the vicinity and cannot recognize them as the same group, I have to make a judgment whether to count them or not.

Q. How do you know what you are seeing and counting are deer and not some other animal?

Given:

- there is usually a sizable quantity of deer in the area in which I am flying the deer count,
- there are other wild and domestic animals in the same area, usually in smaller numbers,
- deer don't climb trees.
- deer are somewhat 'brazen' in their occupation of human communities.
- domesticated animals are often corralled, fenced in, densely grouped or tethered,
- deer are notably larger than foxes, raccoons, skunks and many dogs and smaller than cows and horses,
- deer have a variety of apparent temperature ranges/thermal signatures but are nearly always cooler than common domestic animals (dogs, horses, cattle, sheep),
- skunks, raccoons, and foxes appear to have warmer apparent body temperatures than deer and
 often look like a bright pinpoint of light in the woods, whereas a deer is larger, usually cooler and
 with less distinguishable edge contrast with their surroundings (i.e., they look slightly 'fuzzy'
 around the edges).
- deer congregate more and move less, and generally less rapidly, than smaller nocturnally active wild animals such as skunks, raccoons, coyotes and foxes.
- A. Experience, practice and experiments with the Michigan Department of Natural Resources and others in counting and identifying a variety of captive animal types have given me high confidence in identifying deer in their normal forest, rural and suburban habitats. The deer that I have difficulty identifying and counting are those that are partially hidden from view in evergreen vegetation or exhibit such a low apparent temperature (thermal signature) that I cannot see them or distinguish them sufficiently enough to identify them as deer, or even as animals. I do not count 'white dots or blobs' that I do not have a strong feeling are deer. This includes deer bedding areas in light snow cover that contain melted through areas to the ground that approximate deer thermal signatures. Close examination of most infrared deer count videotapes will reveal to the viewer quite a few animals in trees or on the ground that do not appear on the deer count map. These animals are most likely to be something other than deer. My deer counts are generally considered a minimum definite number, as opposed to a maximum. Some deer will go undetected in nearly every environment.
- **Q.** How accurate is the count?
- **A.** I don't know. I believe an average of 90% is in the ballpark, perhaps better, sometime worse. Conventional methods (deer-car collisions, spotlighting, pellet counts) are considered to be accurate within 30 to 40 percent—not a high number. In this method, we are looking at 100% of the area in question and under good conditions all active deer not hidden from view should be seen and counted with infrared.

Note: I will retain the digital videotape original of this deer count for at least one year.

Larry Davis Kent, Ohio davises @sprintmail.com (330) 677-8612

SAMPLE REPORT INCLUDED (But Not Included in this Report):

- Sample Maps and Images
- Sample Flight Lines
- Aerial Photographs Showing Deer

ROCHESTER HILLS WEBSITE EDUCATION (SAMPLE)

Rochester Hills, MI - Official Website - Deer Management Advisory Committee

Page 1 of 2





<u>Home</u> > <u>City Government</u> > <u>Committees, Boards & Commissions</u> > <u>Committees, Boards & Commissions A - E</u> > Deer Management Advisory Committee

Deer Management Advisory Committee

Meetings

- Meets on an "as needed" basis
- Public Meetings Calendar

Agendas, Notices and MeetingsVisit the City's <u>Legislative Center</u> for the latest meeting agenda, as well as prior meeting information, notices and minutes (if applicable).

Informational Links

- Deer Management Report 2014
- Deer Management Implementation Plan with DMAC Summary 2012
- Deer Committee Composition
- Don't Veer for Deer Brochure (Source: SEMCOG)
- · Gardening with Deer

Members Citizen Members:

Bruce Austin Monique Balaban Allen Decker Benjamin Denno Jim Kubicina Thomas McDonald

Joseph Podvin Term: 12/31/2015

Council Representatives:

Dale A. Hetrick and Adam Kochenderfer Term: 12/06/2015

Contact

Leanne Scott

Deputy Clerk Email

Ph: 248.841.2460

Administrative Staff Members: Michael Hartner and Lance DeVoe

Government Youth Council Representative:

Member Appointment

- · Seven Citizen Representatives appointed by Council
- Two Council Members
- · Administrative Representatives:
 - · Two Members of the Parks/Forestry, and other Staff Members as appropriate
 - One Rochester Hills Government Youth Council Member

Purpose

The Rochester Hills Deer Management Advisory Committee was created on February 9, 2009 to review the Deer Management Policy enacted on September 29, 2008 and develop recommendations for inclusion or modification, if any; review vehicle/deer crash statistics and the annual deer count surveys to evaluate effectiveness of the controlled culling operation; gather and review metrics and data from all available sources and statistics for possible guidelines and inclusion in the Deer Management Policy; investigate and recommend any potential funding sources for implementation of the Deer Management Policy; and make recommendation to assist City Council in its deliberation and adoption of a 2010 Deer Management Policy by September 30, 2009 September 30, 2009.

Would you like to serve?

If you are interested in serving on this Commission, please complete a <u>Candidate Questionnaire</u> and return it to the Clerk's Department at 1000 Rochester Hills Drive, Rochester Hills, MI 48309.

STAY CONNECTED













Car deer accidents and deer dispatched from 1/1/2009 thru 10/15/2014

OFFICER	DATE	TIME	LOCATION	INCIDENT TYPE
Sgt. Bruce	4/27/2009	20:07	Veterans Oak Grove	Car deer accident
Sgt. Bruce	7/1/2009	04:55	Eight St near Tamarack St	Dispatch deer
Sgt. Bruce	7/13/2009	11:16	US31 near Magill St	Dispatch deer
Sgt. Bruce	9/6/2010 •	12:03	4th St near Elm St	Dispatch deer
Sgt. Bruce	10/19/2011	17:14	4th St near US31	Car deer accident
Sgt. Bruce	11/25/2011	17:44	US31 near Care Center Dr	Car deer accident
Sgt. Bruce	3/7/2012	15:02	282 Lighthouse Cir.	Dispatch deer
Sgt. Bruce	11/26/2012	15:31	US31 near Care Center Dr	Car deer accident
Sgt. Bruce	11/26/2011	15:36	US31 near Care Center Dr	Car deer accident
Sgt. Bruce	8/20/2013	22:15	US31 near 12th St	Car deer accident
Sgt. Scmeling	10/15/2009	11:28	70 Maple Street	Car deer accident
Sgt. Schmeling	g 11/1/2012	18:55	Veterans Oak Grove Dr	Car deer accident
Sgt. Schmeling	g 2/4/2013	07:15	Maple St near 12th St	Car deer accident
Sgt. Schmeling	g 7/19/2013	19:23	Glens	Car deer accident
Sgt. Schmeling	g 10/18/2013	12:19	US31·near12thSt	Car deer accident
Sgt. Schmeling	g 11/1/2013	11:25	High St near 8th St	Dispatch deer
Ofc. Pefley	10/9/2009	07:08	Maple St near Middle School	Car deer accident
Ofc. Pefley	6/11/2010	01:54	US31 near Preuss Rd	Car deer accident
Ofc. Pefley	6/19/2010	22:32	Arthur St	Car deer accident
Ofc. Pefley	6/20/2010	23:20	US31 south	Dispatch deer
Ofc. Pefley	6/4/2011	10:21	Arthur St boat launch	Car deer accident
Ofc. Pefley	11/6/2011	17:26	US31 near Monroe St	Dispatch deer
Ofc. Pefley	3/10/2012	07:49	Browning Ave	Dispatch deer

OFFICER	DATE	TIME	LOCATION	INCIDENT TYPE
Ofc. Pefley	6/15/2012	15:26	US31 near Goodwill	Car deer accident
Ofc. Pefley	9/12/2012	03:29	Washington St near Veterans Oak	Car deer accident
Ofc. Pefley	3/24/2013	15:55	Broad Ave	Dispatch deer
Ofc. Pefley	5/13/2013	17:23	Pickers Paradise	Car deer accident
Ofc. Glass	2/1/2010	11:07	4th St near Cedar St	Dispatch deer
Ofc. Glass	2/16/2010	11:55	Browning Ave.	Dispatch deer
Ofc. Glass	6/7/2010	17:04	Cedar St	Dispatch deer
Ofc. Goodspeed	7/26/2009	15:07	10th St near US31	Dispatch deer
Ofc. Goodspeed	11/1/2010	07:52	US31 near 3th St	Car deer accident
Ofc. Goodspeed	9/24/2011	20:04	9th St near Center St	Car deer accident
Ofc. Goodspeed	2/23/2012	17:17	311Kosciusko St	Dispatch deer
Ofc. Goodspeed	9/9/2012	20:50	Hill Rd near US31	Car deer accident
Ofc. Goodspeed	9/21/2012	13:43	Cypress St near 12th St.	Car deer accident
Ofc. Goodspeed	6/20/2013	00:01	Red Apple Rd near US31	Dispatch deer
Ofc. Goodspeed	11/14/2013	06:17	Cypress St near 12th St	Car deer accident
Ofc. Goodspeed	12/11/2013	23:24	Burger King	Dispatch deer
Ofc. Goodspeed	3/29/2014	15:56	574 3th St	Dispatch deer
Ofc. Goodspeed	3/29/2014	15:57	574 3th St	Car deer accident
Ofc. Shands	7/10/2009	21:54	Goodwill	Car deer accident
Ofc. Shands	9/3/2009	06:05	US31 near MCC	Car deer accident
Ofc. Shands	10/15/2009	13:10	Douglas Park tennis courts	Dispatch deer
Ofc. Shands	11/2/2009	03:43	100 Marina Dr	Dispatch deer
Ofc. Shands	5/24/2010	15:55	S. Lakeshore Dr.	Dispatch Deer
Ofc. Shands	11/13/2010	08:01	US31 near Consumers Energy	Car deer accident

OFFICER	DATE	TIME	LOCATION	INCIDENT TYPE
Ofc. Shands	6/13/2012	22:15	9026 Erdman Rd	Car deer accident
Ofc. Shands	8/22/2012	22:01	Cherry St near 12th St	Car deer accident
Ofc. Shands	11/10/2012	00:38	257 5th Ave	Car deer accident
Ofc. Shands	3/22/2013	06:02	Northside Bar	Car deer accident
Ofc. Shands	10/5/2013	03:05	4th St near Cypress St	Car deer accident
Ofc. Shands	10/9/2013	23:35	Maple St near 13th St	Dispatch deer
Ofc. Shands	7/23/2014	17:14	Oleson's	Car deer accident
Ofc. Vasquez	9/6/2009	19:15	US31 near 9th St	Car deer accident
Ofc. Vasquez	11/14/2009	23:44	US31 near Ford dealership	Dispatch deer
Ofc. Vasquez	11/12/2010	18:17	Cleveland St near Arthur St	Car deer accident
Ofc. Vasquez	11/22/2010	15:39	Saber Stadium	Dispatch deer
Ofc. Vasquez	11/27/2010	14:29	12th Street	Dispatch deer
Ofc. Vasquez	5/27/2012	10:37	Northside Bar	Car deer accident
Ofc. Vasquez	6/8/2012	07:52	Rodeway Inn and US31	Car deer accident
Ofc. Vasquez	8/31/2012	10:03	512 4th St	Dispatch deer
Ofc. Vasquez	11/5/2012	16:50	MPD	Car deer accident
Ofc. Vasquez	1/5/2013	10:46	5012nd St	Dispatch deer
Ofc. Vasquez	1/9/2013	18:10	8th near Maple St	Car accident accident
Ofc. Vasquez	3/20/2013	14:59	490 4th St	Dispatch deer
Ofc. Vasquez	9/27/2013	14:03	Veterans Oak Grove Dr	Car deer accident
Ofc. Vasquez	10/7/2013	06:57	Memorial Dr	Car deer accident
Ofc. Vasquez	11/9/2013	14:17	Cherry St near hSt	Car deer accident
Ofc. Vasquez	11/22/2013	18:54	Cherry St near hSt	Dispatch deer
Ofc. Vasquez	12/6/2013	06:40	Cypress St near 8th St	Dispatch deer

OFFICER	DATE	TIME	LOCATION	INCIDENT TYPE
Ofc. Vasquez	4/30/2014	05:57	US31 near Jackson St	Car deer accident
Ofc. Vasquez	6/29/2014	00:07	Stronach Rd near Huer Hill	Car deer accident
Ofc. Vasquez	9/30/2014	19:59	US31 near 10th St	Car deer accident
Ofc. Hallead	4/2/2009	00:14	US31 near 9th St	Car deer accident
Ofc. Hallead	8/4/2010	16:13	US31 near 10th St	Car deer accident
Ofc. Hallead	10/8/2011	23:11	29110th St	Dispatch deer
Ofc. Hallead	8/8/2012	06:02	282 12th St	Car deer accident
Ofc.Hallead	9/8/2013	20:39	Northside Bar	Dispatch deer
Ofc.Hallead	10/7/2013	06:38	10th St near Maple St	Dispatch deer
Ofc.Hallead	10/25/2012	20:35	1713 Vine St	Car deer accident
Ofc. Perkins	12/1/2009	18:58	Cherry St near Browning Ave	Car deer accident
Ofc. Perkins	10/8/2014	06:59	US31 near the Nothside Bar	Car deer accident
Ofc. Nemecek	6/22/2009	17:07	9th St near Cypress St	Car deer accident
Ofc. Nemecek	11/13/2009	11:01	Villa West	Car deer accident
Ofc. Nemecek	1/2/2010	23:47	107 Hancock St	Car deer accident
Ofc. Fraass	5/18/2012	19:52	Washington St bridge	Dispatch deer
Ofc. Fraass	11/1/2012	17:45	MPD	Car deer accident
Ofc. Fraass	2/22/2013	19:19	12th St near Maple Rd	Dispatch deer
Ofc. Fraass	5/2/2013	10:30	Northside Bar	Car deer accident
Ofc. Fraass	10/17/2013	21:35	512 4th St	Dispatch deer
Ofc.Fraass	7/16/2014	21:55	Cypress St near 3th St	Car deer accident
Ofc. Cook	6/15/2009	05:12	1 h St near US31	Car deer accident
Ofc. Cook	2/6/2011	23:10	213 Elm St	Dispatch deer
Ofc. Cook	5/29/2011	06:18	4th St near Elm St	Dispatch deer

OFFICER	DATE	TIME	LOCATION	INCIDENT TYPE
Ofc. Cook	2/9/2012	06:02	US31 South	Car deer accident
Ofc. Cook	10/26/2012	22:32	lst St near Armory	Dispatch deer
Ofc. Cook	11/23/2012	22:48	424 E. Parkdale Ave	Dispatch deer
Ofc. Cook	3/6/2013	19:31	Goodwill	Dispatch deer
Ofc. Cook	5/26/2013	21:59	Hamlin Field	Dispatch deer
Ofc. Cook	8/19/2013	03:03	6th St near Elm St	Dispatch deer
Ofc. Cook	10/11/2013	07:50	lst St	Dispatch deer
Ofc. Cook	12/12/2013	23:34	Oak Grove Rd	Dispatch deer
Ofc. Cook	1/13/2014	21:32	US31 near 12th St	Car deer accident
Ofc. Cook	3/31/2014	02:10	5064th St	Dispatch deer

Total car deer accidents calls - 60 Total dispatch deer calls - 49